

**CLAIMS**

What is claimed is:

*Sub B1*

1. A method of form line following, comprising the steps of:  
defining a first form line using two or more terrestrial locations;  
defining a second form line using positioning data derived from GPS data and a  
swathing offset; and  
updating said second form line according to one or more deviations from said second  
form line.

*Sub B2*

2. A method as in claim 1 wherein said step of updating comprises the steps of:  
following said second form line defined by said positioning data and said swathing  
offset;  
deviating from said second form line to accommodate one or more terrain features;  
collecting new GPS data during said steps of following and deviating and computing  
one or more positions therefrom; and  
defining an updated second form line using said positions.

*Sub B2*

3. A method as in claim 2 further comprising the step of defining a third form line using said  
positions and said swathing offset.

4. A form line following apparatus, comprising  
a vehicle fitted with a GPS receiver configured to receive GPS data and GPS  
correction information and to compute position information therefrom; and  
a processor configured to compute form line following information from said position  
information and to update said form line following information in response to form line  
deviation information.

1    5. A form line following apparatus as in claim 4 further comprising a display device  
2    configured to receive and display said form line following information.

1    5    6. A form line following apparatus as in claim 5 wherein said vehicle is further configured  
2    with an automatic steering apparatus configured to accept steering inputs according to said  
3    form line following information and to provide steering outputs to control said vehicle in  
4    accordance therewith.

1    7. A method of form line following, comprising the steps of:

2        computing a form line pattern for at least a portion of a plot of land from one or more  
3    data values retrieved from a computer readable storage medium, said data values associated  
4    with terrestrial locations comprising said portion of said plot of land;

5        controlling a vehicle so as to follow said computed form line pattern over said plot of  
6    land using positioning information provided by one or more sources of GPS information;

7        computing an updated form line pattern in response to form line following correction  
8    inputs, said updated form line pattern being derived from said positioning information; and

9        controlling said vehicle so as to follow said updated form line pattern.

1    7    8. A method as in claim 7 wherein said positioning information is provided by one or more  
2    GPS satellites.

1    8    9. A method as in claim 7 wherein said positioning information is provided by one or more  
2    pseudolites.

1    9    10. A method as in claim 7 wherein said positioning information is provided by a GPS  
2    receiver housed within said vehicle.

1    10    11. A method as in claim 7 wherein said positioning information is provided by a GPS  
2    receiver located remote from said vehicle.

*Sy*  
*B2*

12. A method of applying chemicals to an agricultural field, comprising the steps of:  
operating a spraying apparatus along a first intended form line so as to apply chemicals  
3 to a first portion of a field; and  
4 operating said spraying apparatus along a second intended form line so as to apply  
5 chemicals to a second portion of said field,  
6 wherein while operating said spraying apparatus, deviations from said first intended  
7 form line are accounted for during one of said steps of operating said spraying apparatus.

*1*  
*2*  
*3*

13. A method as in claim 12 wherein said deviations are accounted for by computing said  
second form line so as to cause ~~said~~ spraying apparatus to follow a path through said field  
which accounts for said deviations from said first intended form line.

*Sy*  
*B1*  
*B2*

14. A method as in claim 12 wherein said deviations are accounted for by applying  
chemicals only to a selected area of said field while operating along said first form line, said  
3 selected area configured so as not to encroach upon said second portion of said field.